



Docket No.: H0498.70112US01  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Charles M. Lieber et al.  
Serial No.: 10/812,653  
Confirmation No.: 3416  
Filed: March 29, 2004  
For: NANOSCOPIC WIRE-BASED DEVICES AND ARRAYS  
Examiner: H. Weiss  
Art Unit: 2814

**DECLARATION**

I, Dr. Robert Benson, declare that:

1. The above-identified application has been assigned to the President and Fellows of Harvard College (hereinafter, "Harvard University"). I am employed as a Director of Business Development in the Office of Technology Development at Harvard University, and am responsible for managing licensing of the instant patent application, as well as other patents and patent applications (and other intellectual property) filed on behalf of the professors, students, and staff of Harvard University, particularly in the areas of engineering and the applied sciences.
2. The instant patent application includes claims generally directed to a number of different areas, including high-density, nanometer-scale memory devices. The patent application describes memory devices that can be formed from nanoscopic wires such as carbon nanotubes. These devices allow memory densities that greatly exceed most or all commercially available technologies, which are typically based on semiconductor substrate geometries, rather than crossbar arrays of conductors or nanoscopic wires. For instance, the patent application states on page 18, lines 11-12 that "it is possible to achieve an active element two-dimensional density of as high as about  $10^{12}$  memory elements/cm<sup>2</sup>." Accordingly, the instant patent application addresses a long-felt need of memory devices having substantially more memory elements contained in smaller areas.
3. There is significant commercial interest in this patent application, as evidenced by the fact that Harvard University currently has exclusively licensed rights in the patent application to two separate companies. One of the co-exclusive licensees is Nanosys, Inc., based in Palo Alto, California. The other co-exclusive licensee is Nantero, Inc., based in Woburn, Massachusetts. The licenses include rights to all claims.
4. Under the license agreement with Nanosys, Inc., Harvard University receives at least a minimum annual royalty from Nanosys, Inc., as well as a percentage royalty based on net annual sales of any commercially product covered by at least one claim of the instant application.

Application No. 10/812,653

2

Docket No.: H0498.70112US01


5. Under the license agreement with Nantero, Inc., Harvard University receives at least a minimum annual royalty from Nanosys, Inc., as well as a percentage royalty based on net annual sales of any commercially product covered by at least one claim of the instant application.

6. At least one of the co-exclusive licensees of the instant patent application is currently developing, with a goal of commercial sale, at least one product that will be covered by at least all independent claims currently pending in this application.

7. Accordingly, the instant patent application includes claims that have been commercially successful for Harvard University, as each of the licensees has agreed to pay a significant stream of revenue to Harvard University, as well as patent prosecution costs.

8. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: 31 Oct. 2007

  
Dr. Robert Benson  
Director of Business Development  
Harvard University  
Harvard Office of Technology Development  
Holyoke Center  
Suite 727  
1350 Massachusetts Avenue  
Cambridge, MA 02138-5701